Claims:

1. An electrochemical plating apparatus, comprising:

a plating cell configured to contain a plating bath;

a substrate support member positioned above the plating bath and being configured to selectively contact the plating bath with a substrate secured thereto;

an electrolyte fluid supply line in fluid communication with the plating bath;

a selectively actuated check valve positioned in the electrolyte fluid supply line; and

an electrolyte bleed line in fluid communication with the plating bath.

2. The electrochemical plating apparatus of claim 1, wherein the electrolyte bleed line in positioned in a side wall of the plating bath and is configured to drain a portion of electrolyte from the plating bath.

3. The electrochemical plating apparatus of claim 2, wherein the electrolyte bleed line is positioned in the side wall proximate a top portion of an anode member positioned in the plating bath.

4. The electrochemical plating apparatus of claim 3, wherein the electrolyte bleed line is configured to drain a portion of electrolyte from the plating bath, while leaving sufficient electrolyte in the plating bath to immerse the anode member.

5. The electrochemical plating apparatus of claim 1, wherein the electrolyte bleed line further comprises a selectively actuated bleed valve.

6. The electrochemical plating apparatus of claim 1, further comprising a micrroprocessor-type controller configured to regulate operational characteristics of the electrochemical plating apparatus.

7. The electrochemical plating apparatus of claim 6, wherein the mirocroprocessor-type controller is configured to close the selectively actuated valve in the electrolyte fluid supply line and open the bleed line to drain a portion of the plating bath from the plating cell.

8. The electrochemical plating apparatus of claim 7, wherein the controller is configured to drain a portion of the plating bath from the plating cell during non-processing time periods by opening a selectively actuated bleed valve positioned in the bleed line.

9. The electrochemical plating apparatus of claim 3, wherein the electrolyte bleed line is configured to completely drain the electrolyte from the plating bath.

10. A method for reducing organic depletion in an electrochemical plating system during non-processing time periods, comprising:

closing an electrolyte feed line valve to isolate a plating cell from an electrolyte supply during a non-processing time period; and draining at least a portion of remaining electrolyte from an electrolyte supply during a non-processing time period; and

draining at least a portion of remaining electrolyte from the plating cell by opening a bleed line valve.

11. The method of claim 10, wherein a bleed line in conmmunication with the bleed line valve is in fluid communication with the plating cell at a location positioned vertically above a top portion of an anode positioned in the plating cell.

12. The method of claim 10, wherein the draining step is configured to leave a portion of the electrolyte in the plating cell, wherein the portion of electrolyte is calculated to maintain the anode immersed in the remaining portion of electrolyte.

13. The method of claim 10, wherein the electrolyte feed line valve is positioned between an electrolyte supply and the plating cell of the electrochemical plating system.

14. The method of claim 11, wherein the bleed line is in fluid communication with an electrolyte solution storage unit.

15. The method of claim 10, wherein a bleed line in fluid communication with the bleed line valve is in fluid communication with the plating cell at a bottom portion of

the plating cell and is configured to drain the electrolyte therefrom when the bleed line valve is opened.

16. The method of claim 10, further comprising reinitiating the electrochemical plating system for plating operations, wherein reinitiating comprises draining the remaining electrolyte from the plating cell and refilling the plating cell with fresh electrolyte.

17. The method of claim 16, wherein draining the remaining electrolyte comprises opening a bleed line in fluid communication with a bottom portion of the plating cell.

18. The method of claim 16, wherein draining the remaining electrolyte comprises simultaneously supplying electrolyte to the plating cell so that an anode positioned in the plating cell remains immersed in electrolyte throughout the draining process.

19. The method of claim 10, further comprising using a microprocessor-type controller to control the closing and draining steps.

20. A method for reducing electrolyte depletion, comprising:

closing a check valve in an electrolyte supply line to terminate electrolyte flow to a processing cell during a non-processing time period;

opening a bleed line valve in fluid communication with a processing cell bleed line to drain electrolyte from the processing cell during the non-processing time period;

opening the check valve during a processing cell startup time period; and closing the bleed valve during a processing time period.

21. The method of claim 20, wherein opening a bleed line valve to drain electrolyte from the processing cell comprises draining a portion of electrolyte from the processing cell, such that a remaining portion of electrolyte is sufficient to immerse an anode therein.

22. The method of claim 20, wherein opening the check valve during the startup time period comprises flowing fresh electrolyte into the processing cell to flush old electrolyte from the processing cell.

23. The method of claim 20, wherein opening the check valve during the startup time period comprises flowing fresh electrolyte into the processing cell for a dpredetermined period of time to clush old electrolyte therefrom.

24. The metod of claim 22, wherein flowing fresh electrolyte into the processing cell causes old electrolyte to be flushed from the processing vell via the bleed line.

25 The method of claim 20, wherein the startup time period of configured to purge old electrolyte from the processing cell prior to commencing plating operations.

26. The method of claim 20, further comprising using a microprocessor-type controller to execute the openign and closing steps.

27. The method of claim 20, further comprising using manually actuated valves for the opening and closing steps.